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PROGNOSTIC IMPLICATIONS OF SEVERE LESION CALCIFICATION IN PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION

Poster Contributions
Hall C
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Authors: *Christos V. Bourantas, Scot Garg, Javaid Iqbal, Yao-jun Zhang, Marco Valgimigli, Stephan Windecker, Friedrich Mohr, Sigmund Silber, Ton de Vries, Yoshinobu Onuma, Hector Garcia-Garcia, Marie-angèle Morel, Patrick Serruys, Thoraxcenter Erasmus MC, Rotterdam, The Netherlands*

Background: There is evidence showing that lesion calcium is associated with an increased risk of target vessel revascularization following bare metal or drug eluting stent (DES) implantation. However, there are limited data regarding the impact of lesion calcium on hard clinical end points in the DES era.

Methods: Data from 6,296 patients recruited in 7 clinical DES trials were analyzed. The angiogram of each patient were reviewed by two experts who identified the presence of severe coronary calcification. Patient clinical outcomes at 3-year follow-up including all cause mortality, death-myocardial infarction (MI), and the composite end-point of all cause death-MI-any revascularization were collected and the prognosis was compared between patients with- and without severe calcification.

Results: Severe calcification was detected in 20% of the studied patients. Patients with severely calcified lesions were older had higher Syntax score and were less likely to have undergone complete revascularization (55.6% vs 48%, P<0.001) compared to those without severe lesion calcium who were more often diabetics. The mortality of patients with severely calcified lesions was increased compared to those without severe calcification (10.8% vs 4.4%, P<0.001). The event rate was also higher in patients with severely calcified lesions for the combined end-point death-MI (22.9% vs 10.9%, P<0.001) and death-MI-any revascularization (31.8% vs. 22.4%, P<0.001). On multivariate analysis, including the Syntax score, the presence of severe lesion calcification was an independent predictor of worse prognosis (HR: 1.42 95%CI: 1.07-1.88, P=0.015 for death; 1.26, 95%CI: 1.05-1.53, P=0.016 for death-MI and 1.18, 95%CI: 1.01-1.39, P=0.037 for death-MI-any revascularization).

Conclusions: Patients with severely calcified lesions have worse clinical outcomes compared to those without severe coronary calcification. This is probably due to the fact that the lesion calcium is marker of advanced atherosclerosis as well to fact that these patients often undergo incomplete revascularization. Whether a de-calcification strategy would improve outcomes requires further investigation.